

Patent Claims:

1. Method of controlling the driving performance of a vehicle, in which the tire pressure of the wheels prevailing in the individual tires is monitored, characterized by the steps of determining the present tire pressure loss, determining or predicting an unstable driving condition and modifying a quantity influencing the transverse dynamics of the vehicle in dependence on the pressure loss on each individual tire position when an unstable driving condition is determined or predicted.
2. Method of controlling the driving performance of a vehicle, in which the quantities associated with the individual actuators of an actively controllable chassis system are monitored, characterized by the steps of determining at least one present error of the quantity, determining or predicting an unstable driving condition and modifying a quantity influencing the transverse dynamics of the vehicle in dependence on the magnitude of error of the actuator on each individual position when an unstable driving condition is determined or predicted.
3. Method as claimed in claim 1 or 2, characterized in that the quantity is modified when a cornering maneuver is detected.

4. Method as claimed in any one of claims 1 to 3,  
c h a r a c t e r i z e d in that the quantity is also  
modified in dependence on the wheel-individual air  
pressure of the tires and/or the deviation of the  
magnitude of error.
5. Method as claimed in any one of claims 1 to 4,  
c h a r a c t e r i z e d in that it is found out in  
accordance with the steering angle, the rotational  
behavior of the wheels, and/or the yaw rate which wheel  
suffers from a reduced tire pressure or at which actuator  
the error of the chassis prevails, and the quantity  
influencing the transverse dynamics is modified during  
cornering in case that e.g. a tire pressure reduced by at  
least 30 % prevails.
6. Method as claimed in claim 4,  
c h a r a c t e r i z e d in that the quantity  
influencing the transverse dynamics is modified when the  
reduced tire pressure or the magnitude of error of the  
actuator prevails at an outside wheel in a turn.
7. Method as claimed in any one of claims 1 to 3,  
c h a r a c t e r i z e d in that the quantity  
influencing the transverse dynamics is a value of a  
single-track model influencing an additional yaw torque of  
a vehicle stability control to be generated.
8. Method as claimed in claim 7,  
c h a r a c t e r i z e d in that the value is the  
friction value which is limited in accordance with the

reduced tire pressure and/or the magnitude of error of the actuator.

9. Method as claimed in any one of claims 1 to 3,  
c h a r a c t e r i z e d in that the quantity  
'influencing transverse dynamics is a threshold value that  
determines a driving condition with a lateral acceleration  
critical in terms of rollover, and rollover about a  
vehicle axle oriented in the longitudinal direction of the  
vehicle will occur when the threshold value is exceeded.
10. Method as claimed in claim 9,  
c h a r a c t e r i z e d in that the threshold value  
is lowered.
11. Method as claimed in any one of claims 1 to 5,  
c h a r a c t e r i z e d in that transverse dynamics  
is reduced during a cornering maneuver (left curve or  
right curve) where a reduced tire pressure prevails at the  
tire of a front wheel, and/or where an error of the  
quantity prevails at an actuator of the front wheel, in  
particular when the tire exhibiting the reduced tire  
pressure or the actuator with the magnitude of error is  
associated with the outside wheel in a turn.
12. Method as claimed in any one of claims 1 to 3,  
c h a r a c t e r i z e d in that the quantity to be  
modified is a value (slip value) indicative of the  
difference between the vehicle reference speed and the  
wheel rotational speed of each wheel in a cornering  
maneuver where ABS braking is carried out with ABS  
control.

13. Method as claimed in claim 12,  
c h a r a c t e r i z e d in that when the wheel with  
the reduced tire pressure is a rear wheel, the ABS control  
is performed according to the SelectLow principle.
14. Method as claimed in any one of claims 1 to 9,  
c h a r a c t e r i z e d in that the value of the  
modification is taken into account in accordance with a  
performance graph, in particular in the form of  
characteristic curves, or a formula.
15. Method as claimed in any one of claims 1 to 10,  
c h a r a c t e r i z e d in that in accordance with  
the reduced tire pressure and the position of the tire  
with a reduced tire pressure and/or the number of the  
wheels with tires with a reduced tire pressure and  
quantities describing the driving situation, the driving  
speed is reduced in particular in accordance with a  
reduction of the vehicle drive torque.
16. Method as claimed in claim 1,  
c h a r a c t e r i z e d in that in accordance with  
the magnitude of error and the position of the actuator  
with the magnitude of error and the number of actuators  
where an error of the quantity occurs and quantities  
describing the driving situation, the driving speed is  
reduced in particular in accordance with a reduction of  
the vehicle drive torque.

17. Method as claimed in claims 2 and 16,  
c h a r a c t e r i z e d in that an error of the  
actuator is an error that can be associated with a  
position of the vehicle and which is in a correlation to a  
wheel, such as a defective shock absorber, defective (air)  
cushioning systems, and like devices.